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Show Me Agriculture

TEACHER PAGE

USING **SHOW ME AGRICULTURE**

Show Me Agriculture provides up-to-date insights about Missouri Agriculture. This issue focuses on two of Missouri's most important livestock industries – beef cattle and swine

Each of the activities in ***Show Me Agriculture*** has been developed to meet specific Show me Standards.

Page 1 – 2. GOALS 1.1,1.2,1.8,1.10,2.1,2.3,2.5 and 3.5: CA 2,SS 2, SS 4, SS 5, SS 7, MA 1

Although most will think about the urban importance of Kansas City, this section stresses the importance of agriculture in the development of Missouri's second largest city. The material may serve as a lead-in to an introduction to cattle drives. The use of maps which include Texas, Kansas, and Missouri will allow students to trace the Chisholm trail and the railroads that were used to bring large numbers of cattle to Kansas City. They could use a map to estimate how many miles the cattle had to be driven to get them to Abilene, Kansas (make sure the students realize that in this instance, "driven" means that the cattle had to walk). The students can also estimate how far the cattle had to travel by train to get from Abilene, Kansas, to Kansas City, Missouri. You might also like to include this material in regard to historical studies about Kansas City and the Oregon Trail or California Gold Rush. The beef poem on page one presents an opportunity to discuss where the cities listed are located. Kansas City's 150th anniversary and the American Royal's 100th anniversary present many opportunities for historical activities. Have your students write a poem of their own about a farm animal and its uses. Provide rules for the type of poem of your choice. Have students develop a poster display with their poem and accompanying art work.

Page 3. GOALS 1.8,2.3,3.5, and 4.6: CA 6, SS 2, SS 4, SS 5, MA 1, MA 3, MA 6, SC 3

Missouri is a very important beef state. To complete the questions, students will need to refer to the maps shown on page 4. Page 4 is from the 1998 Missouri Farm Facts. As students are completing the questions, you might point out that Missouri has the second largest number of beef cows (mature female cattle) in the U.S. Of course, Texas is first. The answers to the questions are:

1. 4,300,000 cattle and calves in Missouri
2. Texas, Nebraska, Kansas, Oklahoma, and California (so Missouri ranks 6th in total numbers)
3. Texas
4. 69,000 farms
5. Texas
6. Only 1 – Texas

Discussion: Since Missouri ranks second in number of farms, but fifth in total number of cattle, this must mean that the average number of cattle per farm in Missouri is lower than many other states. In fact, there are many small beef herds in Missouri.

Page 5. GOALS 1.5,1.10,3.3,3.5: CA 3, SC 3

Students will learn about the unique ruminant digestive system that cattle have. This four compartmented stomach system allows ruminants to consume feeds that other animals would not be able to digest. This means that cattle can graze on grass and then produce milk, meat and other products beneficial to humans. You may have heard that "cattle have four stomachs." Actually, they only have one true stomach. Ruminants have four compartments to their stomach system.

Page 6. GOALS 1.5,1.10, 2.3, 3.5: CA 6, SS 2, SS 4, MA 1

This page reinforces math skills with a variety of problems. Here are the answers:

1. 3 cows x 2 calves each = 6 calves
   2 cows x 0 calves each = 0 calves
   45 cows x 1 calf each = 45 calves
   Total = The 50 cows have a total of 51 calves
2. 10 steers x 3 pounds of grain each = 30 pounds of grain should be fed
3. 40 acres divided by 2 cows per acre = 20 cows could graze in that pasture.
4. A – 60 pound bale of hay divided by 10 pounds of hay per steer = 6 steers could be fed
   B – 6 steers need one bale x 2 bales = 12 steers could be fed with 2 bales
   C – 6 steers need one bale x 4 bales = 24 steers could be fed with 4 bales
   (Of course, there are other ways that your students may arrive at these same answers.
5. 500 pound steer x 80 cents per pound = $400.00 selling price

Page 7. GOALS 1.5,1.10,2.2,3.2: CA 1, CA 6, SS 4, SS 5

Today's hog is very different from yesterday's hog. The pictures show this dramatically. Swine producers must try to produce the kind of pork products that consumers want. Of course, during the last 20 years, consumers have been demanding leaner meat products. Swine producers have been highly successful in producing these leaner hogs. This has been done mainly through genetic selection (and also to a lesser extent through nutrition and management). Modern hogs are so different in comparison to hogs of 100 years ago that they can be used to describe the term "opposite". The activity on this page asks students to think up some descriptive words about the old versus modern hogs that are opposites. There are many possibilities that may be correct and many that we haven't even thought of. Some examples might be flabby-firm, or even old-new.

The final paragraph on this page encourages students to think about future uses for hogs. Today, hogs, cattle, and crops such as corn and soybeans are being used to produce not only food items, but pharmaceuticals and industrial products that contribute to our way of life. This paragraph could lead into critical thinking discussions and activities about the future of agriculture.

Page 8 GOALS 1.5, 1.8, 1.10,2.3,3.5: CA 6, SS 4, MA 1, SC 8

Missouri is also a very important producer of swine. The terms pig, hog, boar, sow and swine all appear on pages 7 and 8. Swine is a term referring to all hogs. The terms pig and hog are often used somewhat interchangeably. However, generally, a pig is younger and a hog is older. Boar is the proper term for the breeding male while sow refers to the breeding female. A chart from the 1999 Missouri Farm Facts has been included. This will allow your students to interpret the chart and do some graphing.

Here are answers to the questions:

1. The prices (in dollars per pound) that your students should find and graph are:
   1994 = $38.60
   1995 = $39.10
   1996 = $50.40
   1997 = $50.90
   1998 = $32.00
   Be aware that these are the average prices per hundred pounds for each year. These prices represent the price for live market hogs (the whole hog). Prices fluctuate somewhat during the year, sometimes substantially. For example, some hogs sold for only $10.00 per hundred pounds in late 1998.